

* Work Order ID 93224

93224

Page 1

November-15-12 9:52:03 AM

Item ID: 646.3811

Accept

N900040100

Setup

Start

NS1

Revision ID:

Stop

NS2

Item Name: Radius Block

Start Date: 11/15/12 Start Qty: 20.00

20

Cust Item ID:

Required Date: 12/07/12 Req'd Qty: 20.00

20

Customer:

Reference:

Approvals:

Process Plan: MLJ

Date: 12-11-12

Tooling: _____

Date: _____

Run

Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
6464000 2000	MLJ								
110	HAAS CNC VERTICAL MACHINING #1	0.00							
110	Memo	0.00							
HAAS 1	I-Machine per DWG								
HAAS CNC vertical machine #1	DWG REV: NC								
<i>Conventional</i>		Manual							
	2- deburr and break all sharp edges								
120	QC2- Inspect parts off machine FAJ/FAIB	0.00							
120	Memo	0.00							
QC									
Quality Control									

12-11-26

20 0

12-11-27

20 0

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
			Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description		Sign & Date	Verification	QC Inspector
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
				Bending <input type="checkbox"/>	Bend <input type="checkbox"/>	Grain <input type="checkbox"/>	Ovalized <input type="checkbox"/>	Pressure/Forced <input type="checkbox"/>			
				Centre Not Concentric to O/S <input type="checkbox"/>	BOM/Route <input type="checkbox"/>	Hardware <input type="checkbox"/>	Over/Under tolerance <input type="checkbox"/>	Temperature/Cure <input type="checkbox"/>			
				Cracks <input type="checkbox"/>	Broken/Damaged <input type="checkbox"/>	Inspection Incomplete <input type="checkbox"/>	Part Incorrect <input type="checkbox"/>	Weld <input type="checkbox"/>			
				Crushed/Crimped <input type="checkbox"/>	Burrs <input type="checkbox"/>	Instructions Incomplete/Unclear <input type="checkbox"/>	Part Lost/Missing <input type="checkbox"/>	Wrong Stock Pulled <input type="checkbox"/>			
				Cuffs <input type="checkbox"/>	Contamination <input type="checkbox"/>	Maintenance <input type="checkbox"/>	Part Moved <input type="checkbox"/>				
				Heat Treat <input type="checkbox"/>	Countersink <input type="checkbox"/>	Mislabeled <input type="checkbox"/>	Positioned Wrong <input type="checkbox"/>				
				Inspection Strip in Tube <input type="checkbox"/>	Cut Too Short <input type="checkbox"/>	Misread <input type="checkbox"/>	Power Loss/Surge <input type="checkbox"/>	Other <input type="checkbox"/>			
				Ripples in Bend <input type="checkbox"/>	Drill Holes <input type="checkbox"/>	Offset <input type="checkbox"/>					
				Torque Waves in Extrusion <input type="checkbox"/>	Drawing <input type="checkbox"/>	Out of Calibration <input type="checkbox"/>					
				Turning Sequence <input type="checkbox"/>	Finish <input type="checkbox"/>	Out of Sequence <input type="checkbox"/>					
				Wave/Twist in Tube <input type="checkbox"/>	Folio <input type="checkbox"/>	Outside Dimensions <input type="checkbox"/>					

Work Order ID 93224

93224

Page 2

November-15-12 9:52:03 AM

Item ID: 646.3811

Accept

N900040100

Setup

Start

NS1

Revision ID:

Stop

NS2

Item Name: Radius Block

Start Date: 11/15/12 Start Qty: 20.00

20

Cust Item ID:

Required Date: 12/07/12 Req'd Qty: 20.00

20

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

QC8- Inspect parts - second check

0.00

Jay 12-11-27

20

130

QC

Quality Control

140

Outsource process-Anodize per QSI017 4.1.10.1

0.00

PL 12-5-12

140

Outsource4

Outsource process - Anodize

Memo

Issue P/O: *18583*

Black Anodize as per Dwg 646.9700

0.00

150

Receive & Inspect for Damage & Mat'l Certs

0.00

PL 12-5-12 (20)

150

Packaging

Packaging

Memo

0.00

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. _____		Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>			
NCR No. _____		Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>			
		Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>			
		Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>				
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									
FAULT CATEGORY									
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions					
				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Other					
				<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled					

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION		AGAINST DEPARTMENT/PROCESS					
				Rework Scrap Use-as-is Work Order Update	Skid-tube Machining Thermoforming Large Fab	Crosstube Small Fab Finishing Composite	Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier	Engineering Quality Other			
Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector	
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear Bending Centre Not Concentric to O/S Cracks Crushed/Crimped. Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion Turning Sequence Wave/Twist in Tube				General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing Finish Folio		Grain Hardware Inspection Incomplete Instructions Incomplete/Unclear Maintenance Mislabeled Misread Offset Out of Calibration Out of Sequence Outside Dimensions		Ovalized Over/Under tolerance Part Incorrect Part Lost/Missing Part Moved Positioned Wrong Power Loss/Surge		Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled	

Work Order ID 93224

93224

Page 4

November-15-12 9:52:03 AM

Item ID: 646.3811

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Radius Block

Stop

NS2

Start Date: 11/15/12 Start Qty: 20.00

20

Cust Item ID:

Required Date: 12/07/12 Req'd Qty: 20.00

20

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

180

Identify as per dwg & Stock Location

81/39A .00

180

Packaging

Packaging

Memo

0.00

IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Quality Control

Memo

0.00

13/4/10

MF
13-4-10

93224

NCR: Yes / No

DQA: Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Date:

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION		AGAINST DEPARTMENT/PROCESS								
				Rework Scrap Use-as-is Work Order Update	Skid-tube Machining Thermoforming Large Fab	Crosstube Small Fab Finishing Composite	Water Jet Prod. Eng. Coor. Rec/Store/Packaging	Engineering Quality Other						
						Supplier								
Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector				
Doc/Data														
Equip/Tooling														
Operator														
Material														
Setup														
Other														
Process														
Supplier														
Training														
Unapproved														
FAULT CATEGORY														
Landing Gear Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion Turning Sequence Wave/Twist in Tube				General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing Finish Folio				Grain Hardware Inspection Incomplete Instructions Incomplete/Unclear Maintenance Mislabeled Misread Offset Out of Calibration Out of Sequence Outside Dimensions			Ovalized Over/Under tolerance Part Incorrect Part Lost/Missing Part Moved Positioned Wrong Power Loss/Surge		Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled	

Picklist Print

November-15-12 9:52:03 AM

Page 1

Work Order ID: 93224

Parent Item: 646.3811

Start Date: 11/15/12

Required Date: 12/07/12

Parent Item Name: Radius Block

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP REV:A NEW ISSUE 12-10-22 JLM VERIFIED:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B1.000X00.250 7075-T6 BAR 1.000" X 0.250"		Purchased	No				f	8.0000		2.9473684			

Location	Loc Qty	Loc Code
MAT008 123555	8 8	32 12-11-26

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. _____ NCR No. _____			<input type="checkbox"/> Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update	<input type="checkbox"/> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab	<input type="checkbox"/> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite	<input type="checkbox"/> Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier	<input type="checkbox"/> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other			
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										
FAULT CATEGORY										
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions						
				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Other						

2
3
4
5
6
7
8

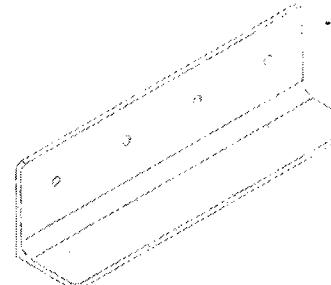
2
3
4
5
6
7
8

NOTES:

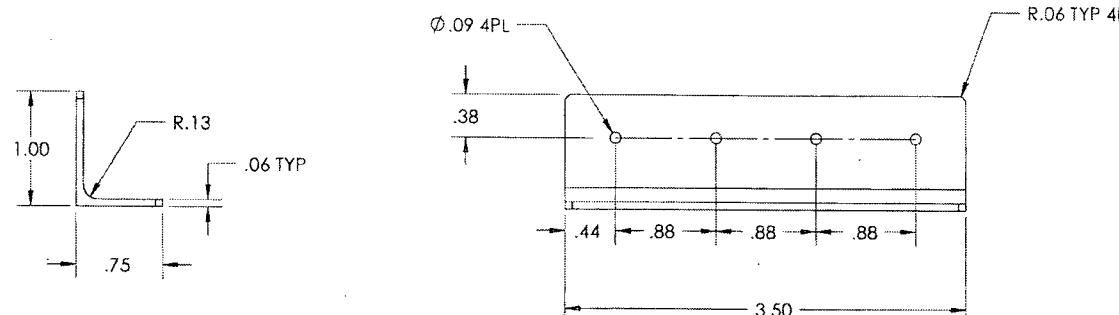
△ MATERIAL: ALUMINUM 70/5-T651 AMS-QQ-A-250/12

△ FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III,
CLASS 2, COLOR BLACK;
CARDINAL 4860-50 PRETREATMENT PRIMER
PRIME IAW MIL-P-23377J TYPE I CLASS N

3. DEBURR AND BREAK ALL SHARP EDGES
4. IDENTIFY IAW MPP-120



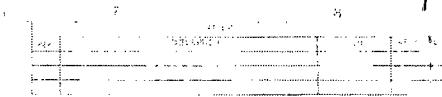
646.3810



QTY	FIND #	PART #	DESCRIPTION	MATE	SPEC.
		646.3814	WIFER BRACKET		
		646.3813	STRU BRACKET		
		646.3812	GUSSET BRACKET		
		646.3811	RADIUS BLOCK		
		646.3810	BRACKET		
PARTS LIST					
NEXT ASSY (S)					
646.4000					
APICAL INDUSTRIES					
2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300					
BRACKETS					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES 2 PLACE DECIMALS 1.00 3 PLACE DECIMALS 1.000 4 PLACES DECIMALS 1.0000					
SIZE	CAGE CODE		REV.	646.3800	
B	07M16		N/C		
SCALE	NONE		SHEET	1 OF 5	

SHOP
REL.
ENGINEER
UNCONTROLLED
SUBJECT TO CHANGE
WITHOUT NOTICE
WORK ORDER
NO. 93224 MLC
12-11-16

93224

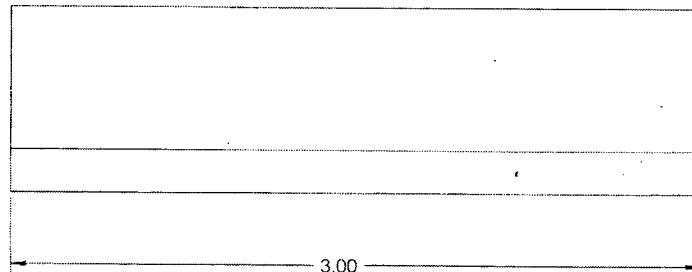


3

26

6

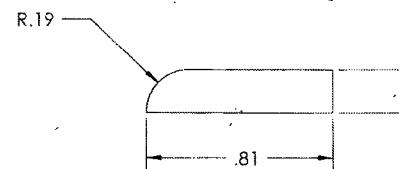
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— 3.0

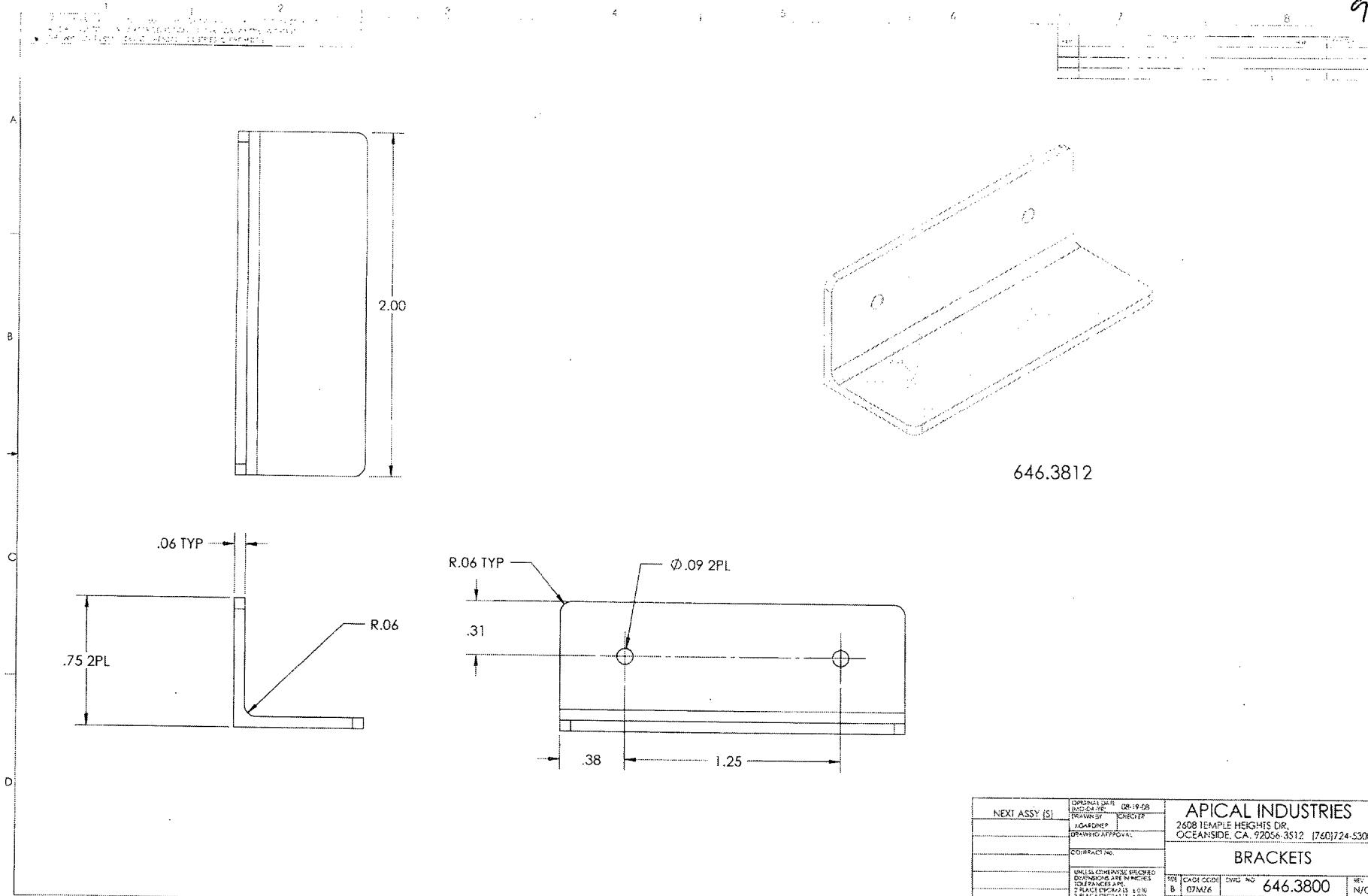


646.381



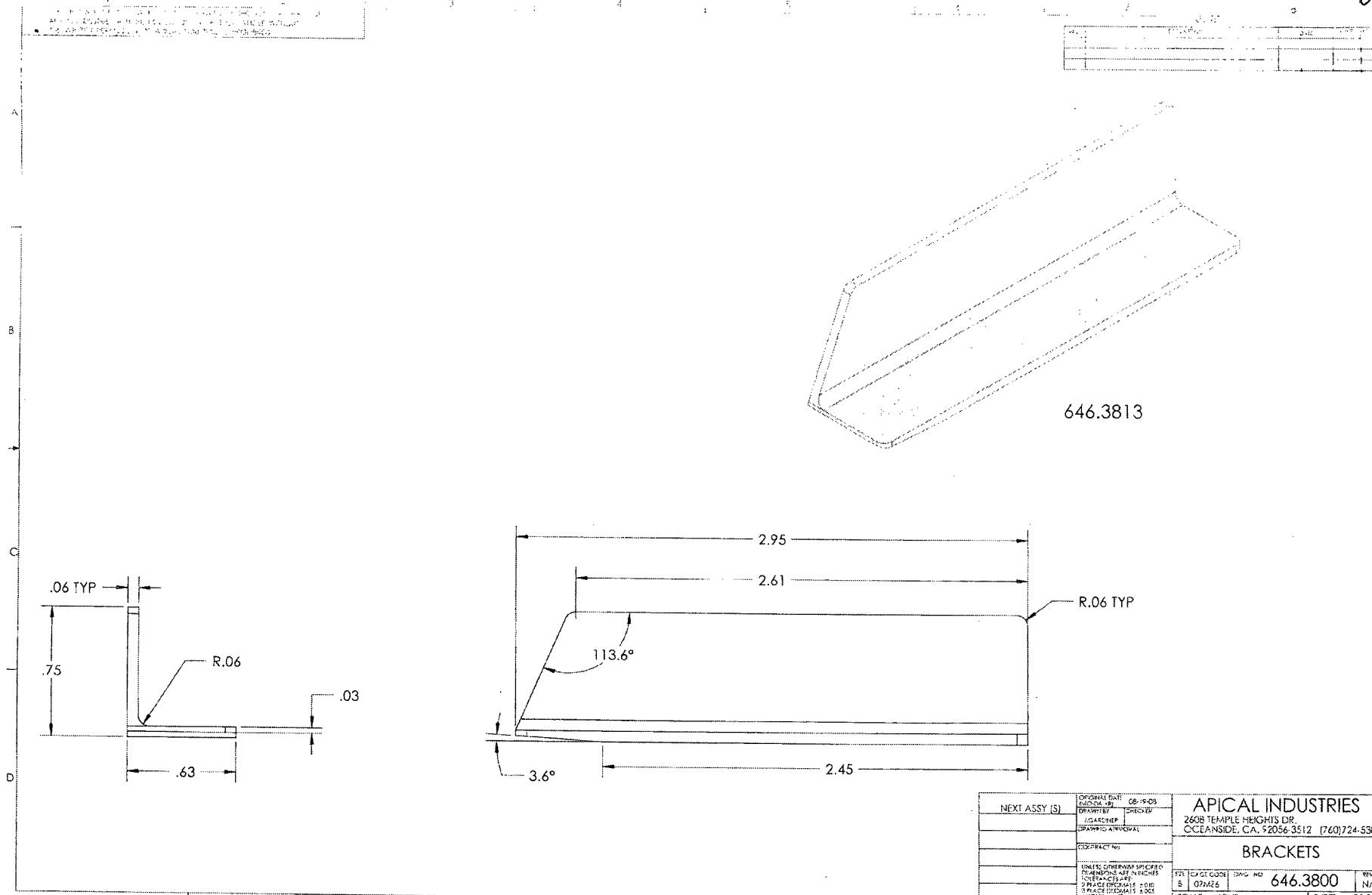
NEXT ASSY (\$)		OPTIONAL - IF MONOGRAM OR WATER MARKING	CS 10-78	APICAL INDUSTRIES		
		PRINTED		2608 TEMPLE HEIGHTS DR		
		CHECKED		OCEANSIDE, CA. 92056-3512 (760)724-5300		
		SPLASH APPROVAL				
		COMPACTING				
		COMPACTING NO.				
		UNLESS OTHERWISE SPECIFIED 1/8" THICKNESS PLATES 1/4" PLATES ARE 2 1/2" PLATES ARE 3 1/2" PLATES ARE				
		INCHES		ITEM	QTY	UNIT COST
		INCHES		B	07486	646.3800
						N/A

93224



NEXT ASSY (S)	ORIGINAL DATE	08-19-08
	REVISION	0
	ASSEMBLED?	NO
	DRAWING APPROVAL:	
	CONTRACTING:	
	UNLIA CERTIFIED: YES/NO	
	DISCONTINUING DATE & REASON:	
	SPACES ALLOWED:	1.00
	5 PLACES DECIMALS:	1.00
	ANGLE IN DEG:	5
	SCALE:	INCH
	CODE/SCODE:	646.3800
	REV:	N/C
	B	07M26
	DATE:	08-19-08
	SCALE:	INCH
	NC:	
	SH:	3 OF 5

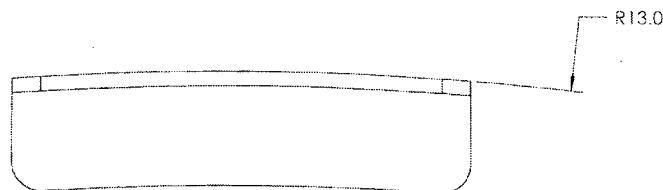
931224



93224



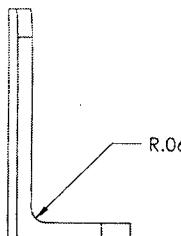
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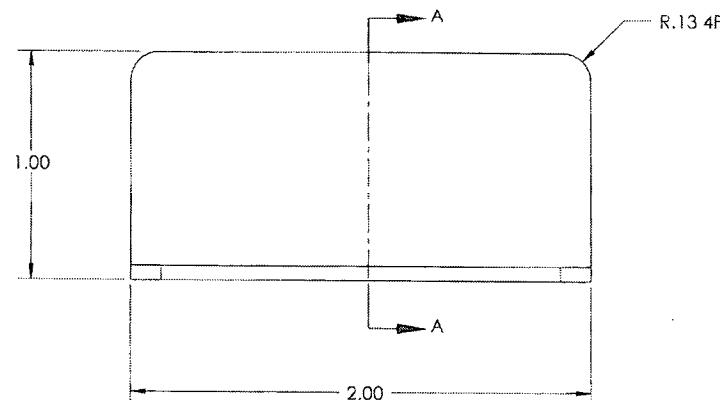
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646.3814

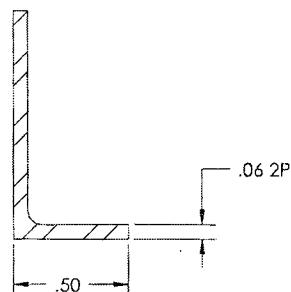
9



10



3



SECTION A-A

NEXT ASSY. [S]		CHG/REV DATE BAC/010 03-19-08	APICAL INDUSTRIES	
DRAWN BY J.GARDNER		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512		(760)724-5300
DRAWING APPROVAL				
COP/RECALL NO.				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS ALL DRAWINGS ARE STYLUS DIMENSIONS		REV G-2008-0001 DME 10/08 B 07486		APC N/C
SHEET 1 OF 1 EQUIPMENT: 1000 JULY 2008		646.3800		

DART AEROSPACE LTD	Work Order:	93224
Description: Radius Block	Part Number:	646.3811
Inspection Dwg:	Rev:	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Measured by:		Audited by:		Preliminary Approval:	
Date:	12-11-27	Date:	12-11-27	Date:	

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

10.04.15



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada
Ph: (613) 446-4544
Fax: (613) 446-4556

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY ON K0A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Checklist

Number: 62149

Date: 14-Jan-13

Ship To

DART AEROSPACE LTD
1270 ABERDEEN ST
HAWKESBURY ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms	Ship Via
Quantity	Description
1 lot	<p>Part: ASST Rev:</p> <p>24 PCS 647.2510 PASSIVATE PER QQ-P-35</p> <p>1 PC 647.1613 12 PCS 647.1712 3 PCS 647.1810 40 PCS 647.1812 2 PCS 647.1813 1 PC 647.1816 20 PCS 646.3312 10 PCS 646.3714 40 PCS 646.3748 20 PCS 646.3811 <i>S 13/04/16</i> 6 PCS 647.7910 12 PCS 647.7912 6 PCS 647.7916 40 PCS 647.9012 10 PCS 647.9013 19 PCS 647.9016 30 PCS 647.9016 30 PCS 647.9017 60 PCS 647.9017</p> <p>HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2</p> <p>Job: 20130027 PO: PO18583 Line:</p>



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada
Ph: (613) 446-4544
Fax: (613) 446-4556

Pack List

Number: 62449

Date: 14-Jan-13

To

DART AEROSPACE LTD
1270 ABERDEEN ST
HAWKESBURY, ON K6A 1K7
Canada

Ship To

DART AEROSPACE LTD
1270 ABERDEEN ST
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms	Shipp Via
Quantity	Description
	Certificate of Conformance A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order. ISO 9001 : 2008 REGISTERED ATG SALES-2010 TERMS APPLY DATE: <u>14/1/13</u> CERTIFIED SIGNATURE: <u>MM</u> RECEIVER SIGNATURE: _____